

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Flextronics Enclosures

North Carolina Manufacturing Extension Partnership

Flextronics Makes Process Changes to Improve Efficiency

Client Profile:

Flextronics International's Enclosure Fabrication Division is a contract manufacturer of sheet metal enclosures and assemblies for several large companies. The North Carolina campus is headquartered in Youngsville, and there is a partner facility located in Zebulon. The facilities are 160,000 and 67,000 square feet in area, respectively. The Zebulon plant employs 250 people.

Situation:

Flextronics-Zebulon employs a cellular factory layout, with cells dedicated to certain combinations of customers. Each cell is enabled for CNC metal-punching, metal-bending (press brakes), grinding, and welding. The facility also contains a paint-line for painted metal parts and an assembly area for large enclosures. To remain flexible in a contract environment, cells often migrate together to maximize available capacity. When an increase in demand led to capacity issues, Flextronics found it needed to standardize its production methods and increase the capacity of the facility to meet the increased demand. The company contacted North Carolina State University's Industrial Extension Service (IES), a NIST MEP network affiliate, for assistance.

Solution:

IES hired a recent graduate to work under the direction and guidance of Dr. Joe Davis as a specialist for industrial engineering and ergonomics. The IES team has access to the latest industrial engineering analysis techniques and makes them available to the state's manufacturers.

The IES team used a variety of teaching techniques to train Flextronics' employees, including teaching-by-showing (a hands-on approach) and industrial engineering analysis. Both techniques focus on improving production efficiency and productivity.

Next, IES and Flextronics created a cellular design team to make process improvements at the plant. The team standardized CNC turret loads to decrease changeover, die changes, and set-up times. They accomplished this task by identifying required tooling and implementing logical run sequences. The team identified and optimized run sequences by part families, material characteristics, and assemblies. It also successfully eliminated shearing requirements for blank sizes, resulting in fewer types of raw material and reduced requirements for warehouse space.

Finally, IES helped the team apply kanban methodology to raw material, work-in-process, and purchased parts, thereby eliminating waste and streamlining flow.

Results:

- * Improved workflow efficiency and output capacity.
- * Increased capacity to meet customer demand.

Testimonial:

www.mep.nist.gov



NIST is an agency of the U.S. Commerce Department's Technology Administration

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

"NCSU's Industrial Extension Service has provided us with sound engineering analysis, which has greatly contributed to our ability to meet our customers' demands and boost our capacity. Flextronics greatly appreciates the technical assistance and professionalism provided by IES, and anticipates future project involvements."

Bill Somerville, Engineering Manager